

Arguments by Authority

Arguments by Authority are simply conclusions reached or decisions made on the basis of an appeal to some kind of authority. Even if we have never taken a course in critical thinking or thought about how we make decisions, we use this kind of argument on a daily basis. Such authorities can range from the teachings and doctrines of a particular religious tradition, the deductively sound proofs of a mathematical axiom through the results of a marketing survey or academic study to the decision to trust that the auto mechanic's estimate of your repair bill will reflect the reality of what you actually will have to pay to get the car running again. These arguments or appeals seek to settle the issue under consideration by employing the knowledge which is imputed to an authority on the subject. Such authorities are generally deemed to be experts in the area being addressed. So the issues surrounding this kind of argument are extremely relevant to learning to think critically.

Types of authorities are:

1. The leadership of a particular religious tradition which leadership occupies the role of teaching the doctrines of that religious tradition;
2. The deductively sound proofs of a mathematical axiom such as the square of the hypotenuse in geometry, or the simple $2 + 2 = 4$ of common arithmetic;
3. The statistical data from a scientific survey of public opinion;
4. The estimate of the auto mechanic as to the cost of repairing your vehicle;
5. The political leadership of a nation or other political subdivision;
6. The professor who teaches a certain course of study.

This list is obviously far from complete but will serve to illustrate the point of types of authority deemed to be experts, and who are sufficiently informed to make an "authoritative judgment" in that area of expertise. Of course, there are false authorities used to present products. Among these would be a Michael Jordan making a television commercial in which he claims that the best long distance telephone service is MCI.

All of us employ the argument from authority or the appeal to authority on a daily basis. This is true even for folks who have never studied critical thinking or who have never engaged in analyzing how they arrive at a decision. This is an arena fraught with problems as illustrated by the following corollary of the famous Socratic statement "an unexamined life is not worth living": "an unexamined opinion is not worth holding or expressing." An unexamined opinion, by definition, is an opinion held with a consideration of the actual evidence for or against that opinion.

Anyone who has trusted an unreliable authority knows from experience the less than desirable results that belief in such an authority can produce. So because we all use this kind of argument in any situation in which we need to make judgments about the reliability of information, this leads us to consider how we can determine an authority's credibility. Basing one's decision(s) upon the conclusions offered by an unreliable authority can and likely will lead to results which are not desired. An unreliable authority is not the same as the false authority of a celebrity making a sales pitch for a product or service. Rather, an unreliable authority is one

who appears to be a qualified expert, but who actually lacks the expertise to make a sound judgment or whose ignorance provides distorted, incomplete or otherwise misleading information. The consequence is that it is extremely important to determine the credibility of the authority to whom or to which appeal is made—and credibility in this case can mean the power to change lives.

This leads us to consider unreliable authority. Basing one's decision(s) upon the conclusions offered by an unreliable authority can and likely will lead to results which are not desired. An unreliable authority is not the same as the false authority of a celebrity making a sales pitch for a product or service as noted above. Rather, an unreliable authority is one who appears to be a qualified expert, but who actually lacks the expertise to make a sound judgment. The consequence is that it is extremely important to determine the credibility of the authority to whom or to which appeal is made.

How does an authority become established as a credible authority?

Because it is based on a direct appeal to some authority, the plausibility of arguments by authority is determined by how credible the authority is. As a result, having strategies to evaluate the credibility of these sources of information is important to critical thinking. Logical theory identifies appropriate guidelines for determining whether or not an individual authority can be trusted. Reliability of this type of authority is evaluated by using a basic list of common sense criteria:

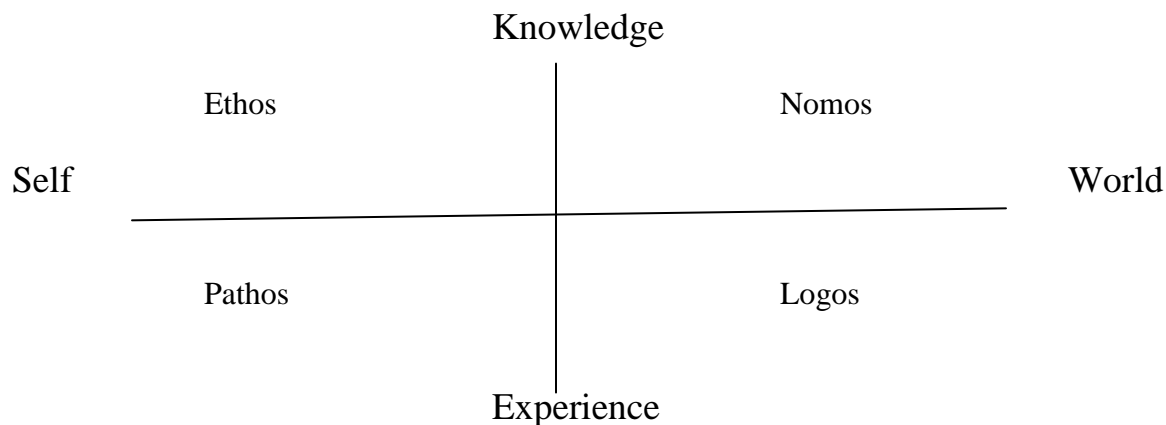
- Do other authorities in the same field recognize the source as an authority?
- Does the appeal involve the authority's 'area of expertise'?
- Does the authority have a covert or overt agenda concerning the issue under investigation?

Each of these criteria targets a different possible weakness in the authority as a source for reliable information. Authorities without credentials may be correct but their lack of credentials should provide added incentive to find corroborating evidence for their position rather than accepting it on faith. Those credentials support the authority only when the authority is speaking about his/her own area of expertise. On other areas, those credentials do not always offer any assurances that the authority really knows anything about that particular subject. Finally, authorities should not have too strong a stake in the truth of the position they are advocating. The cliché of the used car salesman who tells you that the "low mileage" car he wants to sell you was only driven by a little old lady to church comes to mind here. Such bias can mask hidden assumptions or faulty reasoning and so lead people who accept the authority astray. Just because you happen to agree with a certain authority, doesn't make it/he/she right.

The Field of Engagement

Thinking critically draws on both knowledge and experience to make determine credibility. Two basic contexts shape the process: 1) Knowledge based on the choice of the sources of information—the authorities deemed credible, and 2) Experience based on the analytical skills and strategies that the thinker brings to the process. This complex relationship between knowledge and experience can be depicted using a conceptual model called the Field of Engagement.

Field of Engagement



Four Types of Authority

1. Pathos (Feeling): Emotion, motivation, experience, hermeneutics (respect)
2. Ethos (Relating): First Principles and Scientific Axioms (trust)
3. Nomos (Requiring): Following rules—Social mores and values (respect)
4. Logos (Reasoning by Procedure): analysis, synthesis, following instructions (trust)

The Field of Engagement is constructed from the complex interlocking tensions between subject and object, experience and knowledge. It is constructed with its horizontal axis representing the critical tension between subject and object that operates as the primary relationship for understanding reality and the vertical axis represents the two primary contexts that bound the limits of that understanding—knowledge and experience. The horizontal axis represents the assumption that this relationship between subject and object is the primary dynamic through which the thinking process occurs. The vertical axis of the field involves the tension between experience and the culturally constructed belief systems (authorities) that govern how that experience is understood.

The basic form of the argument by authority reveals that the acceptance of an authority often carries with it an assumed set of values. Not all authorities invoke the same set of values. For example, saying you “ought” to do something because it is the right thing to do is different from saying you “ought” to do something to get a particular result. The first “ought” is prescriptive and represents a value standard that is a matter of principle (categorical). This type of value standard

often embodies unwritten social mores or first principles and is taken as a given even when it is culturally determined. These assumptions are often regarded as objective or universal even when their authority is only legitimate for a particular cultural institution or social group. Legal systems for example, only apply to the country that enacted them. Insisting that the legal system in the United States apply in Italy or France is unreasonable. This legal relativity is the reason why there is an international code of laws to adjudicate disputes between nations. In the case of this type of authority, knowledge of both the content and the context of the information is critical to determining whether or not an authority is credible in a particular case.

The second “ought” is pragmatic (hypothetical) and represents the value of knowing how to get results—the power of the expert. The credibility of this kind of authority can be challenged directly by examining how the information was gathered and the conclusions reached. The value standards for these authorities are based on practical tests or strategies, which evaluate whether or not the results consistent with what is already known or with common experience. This value standard is used for scientific work where theoretical conclusions are considered reliable only if they are based on experimental results that meet the tests of both proper procedures and comparison to other work in the field.

This analysis of the relationship between standards of value and the credibility of an authority also suggest that different types of authority could be based on an appeal to different standards of value. Some approaches such as logic or the scientific method have been privileged over others in Western Culture. These different value standards reflect the different limitations and strengths of each type of authority. Thus examining these relationships becomes an important part of making judgments about the worth of an authority because the values of the thinker affect judgment and therefore choice of who to believe. We tend to trust authorities whose beliefs resemble our own.

The distinction between the two kinds of “ought” suggest a way to begin to think about these differences. First there are the authorities that reflect assumptions or beliefs about the nature of both reality (first principles) and society (cultural mores and laws). Second there are the authorities that are grounded in experience whether collective (science) or personal. The knowledge dimension of the field represents the two different forms of authority that reflect collective knowledge and which tend to be assumed to be true. For example, authorities which represent the culturally relative codes and expectations of a particular society falls into the objective—because socially constrained—dimension of the field while assumptions about the nature of reality or the infallibility of numbers belong to the subjective—because part of the belief system—dimension of the knowledge section of the field. In contrast the Experience dimension of the field deals with the relationship between personal experience and collective strategies that represents the second major context in thinking. In this case, the objective dimension of experience deals with reliable procedures like the scientific method which use consensus to arrive at acceptable empirical evidence for a theory. The subject dimension of experience represents the experiences of the individual thinker whose own background experiences and beliefs will impact the analytic process. None of these authorities acts

independently of the others. For example, the scientific method relies on experience in the form of experimental results. However, the inherent subjectivity of experience is constrained by the need for reproducible results. Science uses social constraints as a means to “rationalize” and codify empirical results.

The field of engagement model suggest that each of these two types of value standard can be broken down into two parts in order to make clearer the distinction between the subjective and objective dimensions of the thinking process. This results in four different types of authority which we will label with Greek names. *Ethos* authority appeals to universal standards, *Nomos* authority appeals to social norms and values, *Logos* Authority appeals to reliable procedures and *Pathos* authority appeals to common experiences. All four kinds of authority play a role in critical thinking and each source of authority demands a different method for evaluating the legitimacy of its claims. Critical analysis of these four sources for authority also reveals both how we use these sources to organize our experience through the use of assumptions, laws, social codes (written or unwritten), procedures, heuristics or guidelines. The relationships between the different authorities are also illustrated by the relationships within the field of engagement. For example, the interplay between the *Logos* dimension of authority with the *Nomos* dimension of authority serve to reinforce the objectivity of scientific theories or *Ethos* assumptions about the nature of reality can influence how I experience my world but *Pathos* experience can also serve as the basis for challenging assumptions about what is true.

***Ethos* authority** makes an appeal to universal principles and so claims to be objective. *Ethos* suggests the English word ‘ethical’ and is based on a priori principles such as universal moral standards, or mathematical axioms. This kind of authority derives its power from the claim to represent universal principles and as a result it tends to privilege objectivity because that insures that the authority will work regardless of circumstances. This enhances its credibility. The potential for a kind of absolute certainty gives this kind of authority its power as a basis for thinking and argument. For example, mathematical principles should remain true for any one at any time in any place. Because they transcend cultural and historical contexts, they are necessarily true and so can make a claim to be True in an absolute ‘beyond any doubt’ sense. Mathematicians argue that the equation describing the relationship between the radius and circumference of a circle will always be true for any circle. This universal claim is possible because mathematics only accepts the arguments of **deductive reasoning** as proof for its conclusions.

It is important to remember here that deductive reasoning is based upon the structure of the syllogism – or the structure of the argument – and the result of a correct structure is validity. This validity does not equal truth in any instance except in the application of mathematical axioms. One reason for this is that the universal statements of mathematical axioms have not been subjected to any counterexamples. There appear to be no counterexamples capable of upsetting the universal claims of mathematical axioms.

The strongest form of *Ethos* authority depends on a priori principles as the primary way to guarantee the truth of its claims and establish its credibility. Such principles privilege the objective over the subjective. The principle or definition is assumed to be an absolute standard

for evaluating experience. In some disciplines such as mathematics, systems or proofs that fail to meet the rigorous standards of deductive argument are regarded as worthless. In other cases of deductive reasoning, the goal is “soundness” which is the case when the syllogism is structure correctly and all the premises as well as the conclusion are true. It is this circumstance which reveals the limitations of this type of authority. *Ethos* authority claims objectivity. This claim of objectivity works reasonably well for mathematicians whose work deals with the abstractions of formal systems, but it does not work as well in dealing with information or experiences that are more context dependent. For example, in biology, systems of classification are used to categories new plants and animals and in the process, these new discoveries are integrated into the theoretical system as well. As a result, *Ethos* authority prefers to use categories that promise the maximum amount of objectivity and which therefore can function prescriptively to indicate what ‘ought’ to be the case as much as what is actually the case. In order to be considered a bird, an animal must have feathers, for example. You know this regardless of what kind of animal you are observing—no feathers, it’s not a bird. However this example also reveals limit of this kind of ideal value standard because it involves the issue of how the ideal or universal standards apply to particular cases. In the case of scientific categories, biological classifications are not the only way to describe the natural world. They are treated as universal because the scientific method makes claims to objectivity and this assumption allows the description to transcend its cultural context. This contextual limit on objectivity can also be seen clearly in mathematical proofs, which begin by defining all terms and setting out the axioms of the system. This process involves defining a set of conditions that limits the scope of the proof so that deductive reasoning can be used. The definitions create a domain of discourse that has been stripped of as much content as possible just as the logical proofs for invalidity remove the content of the argument in order to test its formal properties.

Since universals (or ideals) must be true in all cases without exception, they tend to be favored by *Ethos* authority. Such categories serve as prescriptive standards for determining how close actual particulars come to meeting these standards. ‘Ought’ always carries as much conviction for this kind of authority as the facts of the case. Truth ‘ought’ to be absolutely objective. However, in practice this kind of absolute certainty is rather hard to achieve since a subject is always present in making the judgment about truth. So the absolute claims of such universal values suffer from the same weakness as the claim to have absolute authority. Just as just as a strong challenge by a competing authority weakens the absolute claims of this kind of authority any exception to the universal destroys its credibility. This problem becomes particularly acute when religious values are included value system. You can’t appeal to a more absolute authority on value than god but determining exactly what god’s position might be without reference to a particular religious and cultural tradition becomes as problematic as finding a way reliable way to test the reality of sentient life on other planets.

The claim of universality reflects the limitations of this kind of authority. While it works reasonably well for mathematicians whose work deals with the abstractions of formal systems, it does not work as well in dealing with information or experiences that are more context

dependent. Crimes against Humanity is another appeal to a kind of universal moral authority. Charging an individual (or nation state) with such crimes invokes a consensual belief in the sanctity and value of human life that underlies civilized society. Violations of the sanctity of life through genocide for example is grounds for criminal charges and penalties and such crimes are tried in an international tribunal. In order to meet the status of universal value implied by an appeal to *Ethos* authority, this standard of value must transcend any one country's laws or ethical codes and this type of authority can be undermined by showing that it does not meet the standard of universal human value. Since we do not live in a world that has a common system of religious beliefs, appeals to particular religious traditions usually fail this test. Quoting the New Testament to a Moslem will not provide a convincing argument by itself. As a result, *Ethos* authority cannot be used to mediate disputes between competing religious authorities. Although *Ethos* authority functions best when no competing authorities exist, such an ideal state of affairs is rarely found outside mathematical proofs. Eventually the issue of whether or not to accept the authority comes down to the question "Why should I trust this person/institution/study/etc.?" So the basic questions about the basis for the authority's claims to be a universal standard become relevant.

Nomos authority makes an appeal to cultural norms, values or standards and so cannot be understood as making universal claims. Instead its claims are relative to a particular context such as a legal system, or religious doctrine. In cases where content cannot be reduced to a formal structure, making claims to universality or absolute certainty becomes much more problematic and protecting the authority from challenges to its claims to be a universal value standard will become increasingly more difficult. Real families are not really reducible to a single set of conditions because the actual practice of being a family is culturally determined rather than fixed a priori. Instead *Nomos* authority appeals to commonly held standards of value rather than assuming universal authority and so can be used to make explicit if not help determine which standards will be appropriate for use in any given case. As a result, *Nomos* authority with its ability to evaluate competing alternatives with reference to a fixed or common—but not universal standard of values—becomes a second type of authority that is more pragmatic and flexible than the presumption of universal value characteristic of *Ethos* authority. As a result, this type of authority makes more limited claims and as a result it can address the issues that *Ethos* authority cannot. As was pointed out earlier, when conflicts between religious traditions arise, there is no real way to appeal to a higher authority and so people resort to attacking the opposing tradition as heretics or infidels in an attempt to establish the absolute authority of their own beliefs. If this is true in the case of religious claims, it is even more true in the context of competing secular authorities. How do you know who to believe?

As a result of this limitation imposed by the context driven nature of the belief, *Nomos* authority tends to be rule governed and the rules are intended to embody the values of the society. These rules are created by and enforced by the cultural tradition they embody and there is often conflicting understandings of how to apply these rules to actual situations. Lawyers and judges make their living mediating the conflicting claims of various legal precedents and laws. If

the authority stands up to the test of his/her authority by appealing to the rules, then the only way to challenge his/her claims without resorting to a different kind of authority, involves finding another authority of equal stature or changing the rules in some accepted way. This is why differences between religious authorities are so difficult to mediate. In these disputes, faith tends to supersede reason very quickly. However, like *Ethos* authority, judgments based on *Nomos* authority result in an “ought” that has prescriptive rather than descriptive force although like *Logos* authority it reflects the relativity inherent in dealing with actual judgments made in particular circumstances using appropriate standards of value.

So the challenge for this type of authority is the mirror image of that of *Ethos*. Because of the potential conflict between competing standards of value or courses of action that is inherent in judgments based on social norms which are relative to the society that created them, there is a temptation to elevate cultural standards to universal application. Succumbing to this tendency can lead to rationalizing behaviors or choices that do not reflect the actual values of the tradition. The arguments used to justify killing people who do not believe the same way as the killer are examples of this problem. Moslem terrorists who use children in suicide bombings against other Moslems is a case in point. Justification can also be based on different interpretations of apparently universal moral principles such as the sanctity of human life mentioned earlier. Western society is divided on just when a human embryo becomes a person whose life is protected under that Pro-life vigilantes who firebomb abortion clinics or kill Doctors who provide such services justify their actions based on an appeal to religious values that regard the fetus as a full human being from conception.

Nomos authority often involves an appeal to some standard of values that provide the criteria for determining the **relative value** of alternative courses of action or critical judgments. Logical theory provides a formula for determining the whether or not statements asserting that a particular course of action or decision ought (should, must) be followed is a reliable guide for choosing one course of action over another. Since these arguments deal with making judgments between alternatives the first step is to review all the relevant alternatives. Depending on the circumstances this review should be more or less exhaustive. The alternatives are then evaluated for their foreseeable consequences and listed as conditionals of the form: If Alternative 1, (2...n) then Consequence 1, (2...n). Very often at this point some of the alternatives can be eliminated based on undesired or negative consequences. The remaining conditionals are compared based on consequences using an appropriate standard of value to determine. The final judgment about what “ought” to be done/decided is based on this comparison. Most of us have engaged in a less formal version of this process when reaching a decision. Such **normative arguments** can be ethical, aesthetic, legal or concern matters of social custom such as etiquette or protocol.

Logos authority appeals to the evidence and is concerned with the use of procedures that have been shown to be reliable for interpreting that evidence. *Logos* suggests the English word ‘logical,’ and is based on a posteriori reasoning such as that found in empirical science. This kind of authority derives its power from the use of **abductive and inductive arguments** to

arrive at its conclusions. Both of these types of argument reason from evidence and evidence always is grounded in experience of some kind. As a result, such reasoning involves some kind of interpretation of the data given by experience. For example, you get in your car, turn the key and the car doesn't start. Thus you have an experience that demands you determine why, contrary to previous experience, your car will not start. The kind of thinking which will lead you to solving the problem involves interpretation of that experience in the light of your knowledge of how cars work. The failure of your car to start can be due to a number of different causes. Determining which cause is the correct one in order to solve the problem involves abductive reasoning about possible hypothesis, which are then tested in order to determine which one is correct. The process of creating those hypotheses involves interpreting the basic data of experience: you turned the key in the ignition and nothing happened. Different people have different interpretations of this experience because each person has a different set of expectations and knowledge about cars. A mechanic will approach the problem differently from a person who can't tell the battery from the radiator and previous experience with that particular car will also be a factor in determining what hypothesis is tested first (or second or third).

This kind of reasoning also uses examples to make generalizations about what is probably the case in any given situation. Statistics is the discipline that examines in details the reliability of this way of reliably interpreting experience to arrive at conclusions that can be used to predict or describe human experience. If you want to find out what a new drug will really do to help cure some disease, you have to set up a controlled experimental study. Such studies rely on careful preparation and techniques such as blind control subjects to make sure that the results accurately reflect the drug's actual performance as well as determine if any serious side effects come with the benefits. If someone fails to follow these scientific procedures then this can diminish creditability of the results. Since credibility is connected to reliability of the conclusions reached by the study, problems with methodology can signal the potential for harm to patients using the drug and thus lead to removal of the drug from the market or other government action to warn consumers. A number of examples of such flawed studies have made headlines recently and they provide cautionary examples of why proper procedures must be followed in order to achieve credible results.

As a result of its dependence on reliable procedures and careful observations, its limitations are the limits of its methods. A statistical study using a flawed representative sample will produce an equally flawed interpretation of the experimental subject. Unlike the claims made by *Ethos* authority, this kind of authority works best when confronted with competing claims because these represent competing interpretations. The use of competing interpretations (or explanations) can be seen in investigating crime scenes where the evidence can be interpreted in different ways. The detectives must use evidence from the crime scene to reconstruct the crime and determine who was responsible. The prosecution must use the evidence to determine by what crime was committed and whether or not the burden of evidence necessary to convict the defendant is sufficient to convict him/her. Murder carries a different set of defining criteria than manslaughter so question of legal standards also come into play based on the evidence..

So *Logos* authority is driven by methodology. Rather than following prescriptive rules or principles, the concern becomes to determine reliable and effective procedures that will produce ever more accurate generalizations. This authority can be challenged either through a re-examination of the evidence or through a challenge to the methodology by which the original conclusion/interpretation was reached. Although at times the claims of *Ethos* authority can outweigh new theoretical insights at least until the new knowledge gains enough credibility to affect changes in the old, the *Logos* model is the best representative of how the scientific method works.

While *Ethos* authority prefers the prescriptive certainty of the ‘ought to be’ and *Nomos* authority applies standards of value to particular cases, ***Logos*** authority relies on descriptive generalizations that allow it to gain credibility from successful prediction. An important value category used in this way is the concept of ‘Normal’ based on a statistical average for the population under study. “Norms” reflect some kind of interpretive generalization based on the experience of a particular population at a particular time. Unlike the prescriptive standards of universal ideals, these norms may not represent any particular individual within the subject population. Instead they reflect an average or some other kind of generalization. Like the probabilistic arguments that give its interpretive generalizations their credibility, this kind of value is primarily useful as an accurate approximation of the real rather than regarded as completely capturing that reality. A gap between description and what is described always exists and this limiting condition is reflected in the criteria for representative sample that are used to determine how reliable the generalization will be. Here the presence of a subjective element is minimized not by an appeal to objectivity or certainty but through use of proper methods in which the actual representative sample is determined by the nature of the population being studied and so will reflect that reality rather than some universal realm of the Ideas or mathematical truth. As a result of this flexibility, the definitions of what will be considered normal can vary from place to place and culture to culture. The normal family in 20th century America can be very different from the normal family in 20th century India for example without threatening the credibility of the standard as a reliable generalization for that population. However, this element of relativity means that norms can only be compared by using a standard that is capable of dealing with the similarities and differences between the populations.

***Pathos* authority** appeals to experience including the use of feeling as part of judgment. The English words, ‘pathetic’ and ‘pathological’ which are both related to the Greek, *Pathos*, tend to have negative connotations and so are less helpful than those of the other two types of authority. Even the Greek meaning of ‘suffering’ or ‘feeling’ does not really capture the full implications of this type of authority, which draws on experience rather than belief as the source of its power. This difficulty reveals the way in which Western thought has devalued this kind of authority. Because it deals with the emotional component in all thought and emotions are notoriously subjective and individual just like human experience itself, *Pathos* authority is treated with suspicion because it often appeals to experience directly.

After all is said and done, the ultimate test of pragmatic values is simple question “Does it work?” This kind of value is tested in the crucible of experience and, like the *Pathos* authority to which it is related; this kind of pragmatic value reflects the individual viewpoint and concerns. The use of prototypes is a way of understanding how such pragmatic values are grounded in experience rather than a conceptual or cultural system or based on a reliable methodology. Prototypes are models constructed from the individual’s own life experience or knowledge as a way to test new ideas, concepts or processes. Although they suffer from the limitations of such experience, they also offer certain advantages not available in other kinds of standards. Just as the arguments by analogy characteristic of *Pathos* authority can use what is known to understand what is not known, the pragmatic values such as those used in prototypes, can help us to change and develop in surprising new directions. We all tend to solve problems by using what has worked in the past but when confronted with a problem that requires new solutions, we can become stuck and frustrated. This approach can lead to revolutionary new ideas but it can also get mired in personal prejudice and self-deception.

But the problems associated with subjectivity also suggest that this limitation can become a source of strength. The other three types of authority appeal to a common point of view. But in these cases, the individual viewpoint is discounted and unlike the other three, *Pathos* authority appeals to personal experience. This capacity gives this kind of authority its great persuasive power, which can be used either to control or empower.

The importance of this difference in focus can be understood by thinking of the possible correct answers to the question “What shape is the top of this cup?” Very often, when shown a cup and asked this question, people will answer “Round” even though they aren’t really in the correct position to experience the top of the cup as round. If the question is understood from the point of view of their actual experience of the cup, there will be as many answers as there are people looking at the cup. And more importantly, each of those answers will be equally correct in relationship to their experience. If they have the skill to describe the cup as it exists in their experience—by drawing it, for example—then it is possible for other people to experience the cup from the other person’s point of view thus creating a common experience from a particular point of view. This insight into the nature of subjective experience suggests that in order to appeal to this kind of authority, a ground of common experience must be assumed or established. In fact, this entire example is based on analogical reasoning based the common experience of having a particular point of view that can change, an experience that is based on the even more common experience of being embodied.

This appeal to common experience is the source of the authority for what logic calls ‘**arguments by analogy**’. This type of inductive argument works by comparing two different kinds of experience. The reliability of the comparison is evaluated by using the principle of ‘relevant similarity’ which serves as a heuristic for testing the reliability or usefulness of the comparison. The principle of relevant similarity assumes a common viewpoint about what interpretation most accurately expresses the reality represented by evidence. If the comparison passes the test, then the argument is deemed cogent and the authority gains credibility. For

example, the source experience of seeing a cup from a variety of viewpoints or a single viewpoint can be used to understand the relationship between an objective position or conclusion and a subjective one. In the courts, eyewitness testimony is very persuasive but recent studies have shown that such testimony can be very unreliable unless it is carefully gathered by investigators.

However, because emotions are notoriously subjective and individual [just like human experience itself], *Pathos* authority is treated with suspicion because it often appeals to subjective experience directly, and separately from concurrent appeal to other types of authority. Even though there is emotional content in all thought, the Western world has devalued *Pathos* authority precisely because of its emotional content. *Ethos*, *Nomos* and *Logos* authority all depend on establishing and maintaining a common point of view – beliefs/principles in the case of *Ethos*, common social/cultural values in the case of *Nomos*, and methodology/evidence in the case of *Logos*. In all other types of reasoning, the individual viewpoint is discounted. But the problems associated with subjectivity can also become a source of strength even within the limits of subjectivity. This capacity of the certainty derived from personal experience can provide great persuasive power to *Pathos* authority and it is in this persuasive power that the risks and benefits of this form of authority lie.

The power of this kind of argument lies in its ability to use what is known to understand what is unknown. As a result, under the right conditions, it can be a very powerful tool for understanding experience and communicating it to others. Because it appeals to experience, this type of argument works best when the source analogy is an experience common to all the participants in the discussion or investigation. For example, I can use the source experience of going on a diet to explain why simply learning about thinking critically without actually practicing the necessary thinking skills is as useless for losing weight as reading diet books without going on a diet. Very few people miss the point of the argument because everybody in our culture is familiar with how the diet process works (or doesn't) as a method for weight loss. That kind of intimate recognition of the truth of the source experience gives this type of argument its persuasive power. We tend to trust people who share our experiences and that trust produces a corresponding willingness to accept this kind of authority.

Because it is concerned with comparing experiences rather than universal principles or proper procedures, *Pathos* authority operates through the use of guidelines or heuristics rather than being dependent on a priori rules or procedures. Such guidelines offer instruction without either the coercion of prescriptive rules or the limits of descriptive methodology and so can function as a source for creative as well as critical thought. Like the dying Buddha warning his disciples to test his teachings to the crucible of their own experience, this kind of authority must be judged pragmatically. If the experience doesn't feel right, the argument loses its credibility no matter how many experts declare it to be true.

How does this work in Practice?

As the previous discussion suggests, each type of authority roughly corresponds to one of the major types of argument identified by logicians. This observation can provide additional help for understanding how each authority establishes and maintains its credibility in practice. The preceding analysis argues that understanding and evaluating the values associated with sources is a very important part of critical thinking. Each type has strengths and weaknesses, so the problem becomes how to use the different types appropriately. This question leads us into considering the complex relationship between knowledge and experience that lies at the heart of critical judgment. In the end, the argument by authority demands that the thinker make a value judgment about the credibility of the source and that judgment can profoundly affect the whole thinking process.

In order to investigate this point further I want to conduct a thought experiment using an analogy between a map (knowledge) and the potential journeys through the territory it describes (experience) to examine this process of judgment. Making judgments about authorities is a lot like my approach to deciding whether or not a map is to be trusted. I determine the credibility of my source of information by using the tension between knowledge and experience which together serve to inform my judgment. The map represents information provided by outside authority and the use of the map reflects the test of that information as it is being used. But evaluating the accuracy of a map is not necessarily a simple process. Sometimes the fault lies not in the map, but with the traveler who selected it. Maps can be out of date or intended to be used for a different place. Insisting on using use a map of New York City to travel in Los Angeles would be an exercise in creative frustration, if not outright delusion. Here the problem is not with the map but with the traveler. Maps are intended to point us in the right direction, help us get our bearing, supply information and reassurance that we are headed where we wish to go. In order to read a map, you must both understand the ‘code’ for deciphering its reference points and their relationship, and be able to recognize those reference points as they appear in the actual territory at that particular time and place.

Imagine that a friend has given you a map describing how to get to her house out in the back country. Following the map, you come to a place where the map shows three roads but you are confronted with four possible roads—two of which are unpaved dirt tracks. So you have a clear disagreement between the map and what you have encountered in experience. Inconsistencies between the map and the territory mean one of two things has gone wrong. The first possibility is that the map is wrong because it fails to show one of the roads. The second possibility is that you have misread the map and so are lost. How do you resolve this dilemma?

I would begin by considering what kind of a map maker my friend was. If I had doubts about the accuracy of the map, then I would try to figure out which one of the roads, she would most likely have left off her map in order to correct for the problem. If I decided that she was a reliable map maker, I would retrace my steps to find out where I had gone off the right track and then move on from there. In the end, if both failed, I would call her up and tell her where I was—she could come get me and then I would know how to get to her house—I would have a guide. This example demonstrates the strategies I would use to determine whether the map or

my reading of it was at fault. If that strategy failed to produce the desired result, I would make an appeal to an outside authority who could settle the matter.

These thought experiments suggest to me that questions about a source's credibility can provoke any one of three basic responses. 1) You can attempt to understand the work in its original historical context—in this case, the reliability of its source based on my knowledge of my friend. This approach is usually based on some authority outside the interpreter. 2) You can determine how the work impacts present experience or knowledge. This approach attempts to integrate knowledge into experience as when I retraced my steps in order to try to determine if I have misread the map and so strayed off course. This context involves considering the institutional or other contexts in which the knowledge was acquired. 3) And finally, the interpreter can envision other possible ways to understand the meaning of a piece of information. This approach expands the possibilities to include new ways of thinking about what you have learned and so operates as a means to transcend the limitations imposed by the form itself. In each case, the final stage of the process integrates the meaning into the life experience of the interpreter and so gives it value. Consequently, each response places a different emphasis on the relationship between knowledge and experience reflected by these three interpretive strategies.

With this discussion in mind, I want to return to the relationship between the four kinds of authority which can be understood as providing different kinds of map. Ethos authority provides the basic assumptions and first principles that ground the information. Nomos authority represents the—often unwritten—social mores that privilege some kinds of authority over others. Both can produce assumptions that need to be examined in order to make judgments about the information they offer. Logos authority explicates what procedures will be accepted as offering reliable results, while Pathos allows for the persuasive power and necessary correction of personal experience.

Analytic Papers as Maps of Thinking

Like sources of authority, maps do not do your thinking or take your journey for you; it only suggests where to look. It whispers “put this in relationship to that, begin here, use this to orient yourself, re-examine that landmark.” Thus maps serve as both sources of knowledge and as guides to orienting oneself in experience. This last insight suggests that the analogy of the map can also be extended to the process of critical writing which is a kind of thought. Creating a map involves selecting relevant aspects of experience or knowledge in one area and transfers the pattern to a different experience. For example, I want to give someone directions to my house. In this case, most of the work of creating appropriate reference points has already been done by the city because the streets all carry signs, which provide reference points I can use in giving directions. I give directions using the map code already in place by selecting the portions of that system which are relevant to my intention of giving directions to my house. I also include the basic north, south, east, west orientations in my directions to guide my visitor in the proper direction on the marked grid of the city streets. The concrete reference points of the street names combined with information about orientation and direction is usually sufficient to enable visitors

to find my house. So, in order to create a map, I must provide reference points linking the map to corresponding points in the territory described by the map, and give some means for orienting map, the territory and the interpreter. This second condition is necessary in order to determine how the reference points on the map correspond to the features in the landscape that they represent.

So how is writing an analytic paper similar to creating a map. Considering the process of making a map making provides some clues. First you must select a target territory. In writing this would be the subject area or problem you want to analyze. Then you need to review the information you already have about the territory. How familiar are you with that territory? What do you know? What do you need to learn? How do you go about exploring the territory that is unfamiliar? The second major step follows from your review. You need to find and select relevant information about the territory/subject matter. What are its boundaries? What sorts of experiences, objects, persons are included as part of the territory? Your thesis statement or question will sum up your findings. Next you need to select construct a plan which will capture the relevant information by providing appropriate reference points that represent its key relationships. What information is important to communicate to the reader? Constructing cogent, coherent arguments is a powerful, primary strategy at this stage. Follow your plan being careful to use language that support rather than confuses your reader. And finally you need to review your map/conclusion. Does the “map” really fit the territory? Have you left out any important issues or alternatives that weaken your arguments? As my example of reading a map suggests the thinking process evolves through a series of contexts that constrain and shape it. In the process of evaluating a map’s authority/accuracy, I must use different types of authority to test my thinking at each step just as I do when making choices about an authority’s credibility.